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NOTES ON THE CLIMATE OF THE ISLES OF SHOALS, AND OF NANTUCKET.¹

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A RESIDENCE during the months of July and August at the Isles of Shoals, and an acquaintance for several years with the summer climate of Nantucket, will perhaps justify the writer in presenting the following observations.

The group called the Isles of Shoals lies about nine miles off the New Hampshire coast, opposite the mouth of the Piscataqua River, in clear sight of York, Portsmouth, and Rye Beach. The two most important islands are Appledore, with four hundred acres, and Star, with one hundred and fifty acres. Each of these islands possesses a large hotel, and both together will receive nearly a thousand guests. Both hotels furnish excellent tables, with a liberal provision of the more simple and wholesome articles of fare. The Oceanic, on Star Island, is in its third season only, and the crowd of guests is not so great as at the Appledore; its rooms are larger, its general look more modern, and its prices a trifle higher. Neither house is at all troubled by the nuisance of fashionable dressing.

The climate of the islands during the summer months is remarkably cool, and free from great variations in respect to temperature and moisture. These qualities are of course derived from the equalizing power of the surrounding ocean. A land breeze may be distinctly felt as such, but its qualities are greatly mitigated before reaching the Isles.

It is necessary to warn visitors to provide themselves with moderately thick flannels and woolen outer garments, such as are suitable for early spring wear. These are to be worn constantly, by most people; and during the northeasterly storms, which may come even in July, a winter overcoat is needed. Last season, which was a cold one, there were several such storms; on July 5th the thermometer ranged from 53° to 58°; on July 12th from 56° to 62°. And it may be permitted to warn physicians that there are persons to whom, even in health, a temperature as low as that of these islands is a constant source of discomfort. An habitually sluggish circulation, accompanied with cold feet and hands, may prove a reason against the selection of this climate, es-

¹ Reprinted from The Boston Medical and Surgical Journal of October 7, 1875.

pecially as there are no drives to be taken, and scarcely a walk, and a sedentary life is the rule among the guests.

The only definite information concerning temperatures that I am able to present is derived from observations of my own, taken at Star Island from July 4th to the end of August, 1874, a season which was rather cold. During August the thermometer ranged for the most part between 60° and 70° ; during July the variations were much greater. The greatest variation observed on any one day occurred on July 14th, when the mercury stood at 66° at seven A. M., and at 81° at six P. M.; a range of 15° . In August there were a number of days on which the range did not exceed 1° or 2° . For July the total range of temperature was 28° (namely, from 53° to 81°); for August, 21° (namely, from 56° to 77°).¹

The monthly ranges for July and August, 1874, in Boston, were respectively 48° and 40° , or nearly twice as great.

Upon Star Island the mean daily range in July was $7\frac{5}{7}^{\circ}$; in August, $7\frac{1}{6}^{\circ}$. In Boston the corresponding figures, as given by Mr. Jonathan P. Hall² for thirty-six years, assign ranges of 13° and $12\frac{2}{5}^{\circ}$ for July and August, respectively. Again a difference of nearly two to one in favor of the Isles is found.

These differences, though apparently small, are of great importance. Most of us are very susceptible to changes, and are in the habit of exaggerating the numerical statement of them. A difference of from 4° to 6° represents the difference between June and July weather, in the greater part of the United States at least; hence we may say, upon inspection of the following table, that the Isles of Shoals enjoy a June temperature, while Boston, Newport, and Nantucket are in the heats of July. A rise of 1° or 2° was quickly perceived by us at the Shoals, and was commonly supposed, by those who did not consult the instrument, to be a rise of 5° or 6° .

MONTHLY MEANS OF TEMPERATURE.³

	June.	July.	August.	September.
Isles of Shoals		66.6	64.3	
Fort Constitution ⁴	61	67.1	65.1	58.9
Fort Independence ⁵	65.6	71.1	69.1	62.8

¹ Temperature was noted between seven and eight A. M., between one and two P. M., and at seven P. M., and during the few hot days my attention was frequently directed to the instrument at other times. Night temperatures, occasionally noted, showed a fall of one or two degrees between seven P. M. and midnight, or later. Thus it is probable that the absolute extremes were very nearly reached, though no self-registering instrument was used. The thermometer hung on the north side of a cottage, under a veranda, exposed to free currents of air, and protected from the direct rays of the sun.

² The observations were made at his house, near the head of Hancock Street.

³ Calculated from morning, noon, and evening observations.

⁴ This and the following temperatures are quoted from Lorin Blodget's *Climatology of the United States*, 1857. Fort Constitution is near the mouth of the Piscataqua River.

⁵ Situated upon a small island in Boston harbor.

	June.	July.	August.	September.
Nantucket	63.6	71.0	68.9	63.4
Newport	65.3	71.1	70.1	63.6
Boston	65.9	71.9	69.2	61.8
Philadelphia ¹	71.5	76	73.2	63.8
Washington	73.9	76.7	77.5	68.8

The change from an inland climate, or even that of the White Mountains, to the Shoals cannot be made suddenly without some risk. I had frequent occasion to notice the fact, and several times saw more or less severe affections of the bowels brought on by this cause. As a rule, diarrhœa scarcely occurred at all among the guests, except as a result of the very grossest carelessness and excess; there seemed something in the air which predisposed to constipation rather than the reverse. As for the drinking-water, it was drawn from a rain-water cistern, and seemed to be unobjectionable. At the Appledore they use a pump standing about one hundred and fifty feet from the house; the water varied in quality, being sometimes saltish in taste; but its absolute purity as respects sewage-matter seems certain from the excellent and thorough system of drainage, which discharges into the sea below low water, several hundred feet away from the house. Among the young children, who are quite numerous at Appledore, diarrhœa of a mild sort has been at times frequent for a week or two together; the causes of this I am unable to give. During the present year I believe this has not been the case. Among older people indigestion will sometimes punish those who think the sea-air will enable them to digest everything. A regulated, wholesome diet is as necessary here as at home. A dinner composed (for example) of clam-chowder, cucumbers, boiled mutton, green pease, tomatoes, corn, plum-pudding, ice-cream, watermelon, nuts, and raisins — which is not an unfair specimen — is possible once or twice, but makes an impression on the system in the long run.

The water is too cool for many persons to bathe in; in July it ranges from 50° to 60° , but during a few of the last days of August (1874) it rose to 70° , which is a pleasant temperature. The bathing-houses are also too directly exposed to the view, being in front of the houses and near the wharves; otherwise the pretty little inclosed basin at Appledore, containing about half an acre of water of safe depths, is decidedly attractive. The breakers never reach the bathing-places in either island. No doubt bathing would be popular if there were a good beach; for at Rye Beach the water seems to be equally cold. Dr. A. H. Nichols has kindly placed at my service his observations upon the water at that place in 1873, from which it appears that in August the water ranged from 52° to $64\frac{1}{2}^{\circ}$; in July it was yet colder; the observations were made at six A. M., but the water was scarcely warmer at noon.

The island of Nantucket is ten or twelve miles long from east to west,

¹ At the Pennsylvania Hospital.

and two to four in breadth ; it is reached by two hours' steaming in a southeasterly direction from Martha's Vineyard. Its northern and eastern aspects are faced with steep bluffs of sandy earth, with a narrow beach at the foot, like those of the islands in Boston harbor. Its surface is for the most part an open moor, or rolling prairie, covered with a scanty dry herbage, swept by every storm, and unable to support a vigorous growth of trees in any part except the sheltered streets of the "city."

Geologically speaking, the soil is of the drift-formation which prevails in Southeastern Massachusetts ; it is mostly a coarse sand or gravel, or a loam with a large mixture of sand ; in places there are strata of various sorts of clay, and at rare intervals a boulder is seen. Peat-bogs are common in the depressions which have served as the beds of ponds, but of all the ponds and swamps in the island there is none which is thought to give rise to miasma, or which is near enough to the towns (of Nantucket and Siasconset) to be injurious to health. The nature of the soil makes driving difficult ; the streets of the city are generally paved with cobble-stones, and outside of the city there is not a quarter of a mile of road where a fast horse would be of any use. Neither are there any pleasant walks in the suburbs of the city ; for the moment one passes from the closely-built street one comes upon the bare, brown, turf-y moor, where the roads are mere ruts through sand, and without shade. By "city" the reader is to understand the ancient and picturesque wooden town of Nantucket, which lies on the northern side of the island, fronting a very spacious and safe harbor ; it has now a population of about three thousand, though built to hold ten thousand ; there are a great many boarding-houses, and some good hotels, among which may be mentioned the Ocean House, as deserving the confidence of the traveler who wishes a good table. Siasconset is a pretty village of about sixty houses, on the southeastern face of the island, seven miles and a half from the city, with very fair accommodations, but apt to be crowded ; Nantucket is rarely over-filled.

Nantucket city possesses by no means a cool summer climate, as measured by the thermometer. During July and August one may expect, in four days out of five, a noon temperature of 70° to 80° , and an evening temperature of 60° to 70° . In hot seasons it will rise frequently to 80° or more in the hours between twelve and four, but invariably falls after this, and scarcely ever stands above 70° in the evening.¹ This considerable rise in the afternoon is due to the situation of the town, on the north of the island ; the wind is generally from the south and west, and however cool it may be upon the ocean, it becomes rapidly heated

¹ During the four years 1872-75 the thermometer in July ranged from 56° to 88° , with one exception of 54° ; in June, from 48° to 81° , with the exceptions of 43° once and 45° once. September has a temperature like June. These statements are made by Captain Charles H. Colman, who observes sunrise, noon, and sunset temperatures. The coldest day known was February 2, 1815, with 11° below zero.

in its passage of two or three miles across the open plain before reaching the town. On one such warm day (July 27, 1875) I found the water at the south shore of a temperature of 72° , the air over the ocean being the same, and as I drove back to town the atmospheric heat rose steadily to 82° . This excess of heat is not present at Siasconset, where the southerly breeze comes almost directly off the water; as a rule the hot part of the day is probably five degrees cooler there than in the city; in fact, day and night are both cooler there, and the air circulates better. A part of Nantucket city is built upon high land, thirty or forty feet above the sea, and a part is quite in a hollow; the invalid will do well, in summer, to seek the higher and breezier parts, for the climate is decidedly different.

The moisture of the air is great, and, combined with the heat, makes active muscular exertion upon land an undesirable thing. Lassitude of a luxurious sort, and a readiness to fall asleep without a particular reason, seize upon the summer visitor, whoever he may be, whether native to the island or a foreigner. Pedestrian effort, except about the streets, is next to impossible, but sailing and rowing are pleasant, and eminently safe; sitting still is certainly better, and lying down best of all, in the indolent dog-days. Judging from my own sensations, I should say that the air is less charged with moisture than at Falmouth, on the south shore of Cape Cod, with which I am quite familiar; at the village of Wood's Hole, in Falmouth, surrounded on three sides by water, the monthly mean of humidity for July last was 79.7, for August 86.7; but these high figures are certainly not representative of the state of things in Nantucket.¹ The month of September and the last half of June possess a brilliant, pungent atmosphere, equally free from damp chill and from excessive heat. East winds, by the way, are damp and chilly, as elsewhere on the New England coast, but are infrequent in the hot months.

The drinking-water is very variable in quality. Most of it is procured from wells, and no two wells are exactly alike, some being extremely sweet and soft, but most bearing a decided brackish taint, and in some cases a strong flavor of iron. It is rather common for visitors to be troubled with a slight diarrhoea, which they attribute to this cause. It would not be amiss to bring a little claret with one. Those who are not disturbed in this way are apt to experience constipation, which passes off in a few days with very little help from medicine, like the constipation which attends a life upon shipboard.

As respects drainage, there is none to speak of, most houses being dependent on common cess-pools; the soil is so light as to make frequent removals unnecessary. Typhoid fever is not at all rare, though it is not so

¹ At Falmouth and Wood's Hole the air possesses the same power to produce languor as that at Nantucket.

frequent as to excite alarm. In the closely-built parts of the city the pump is often in dangerous proximity to the cess-pool. I am unable to speak of the hotels.

The bathing at the city differs from that at Siasconset in being warmer and cleaner; freer from the *débris* of sea-weed. The water is shallow, and in certain spots is warmed by long exposure to the sun. I examined the water frequently from July 16th to 26th, and found at the "north shore" the water at 72° or 73° ; in the harbor, 72° to 77° ; and at Siasconset, once 67° , on a tide coming from the east, and once 70° . Neither the north shore nor the harbor has any surf; the great value of the bathing consists in the mildness of both water and air, which permits delicate persons to enter the water without a shock, and on leaving it to regain quickly their normal circulation. Except on rainy days, which are rare, one is sure to have a brilliant sun; fogs and clouds seldom interfere with the effects of the insolation. In my opinion these qualities of the bathing are of very great importance. At Siasconset, though the air is finer and more equable, the water is not so pleasant; a strong tide-current and an undertow prevail constantly, and the breakers are often dangerous, which circumstances, with the low temperature, make the bathing undesirable for delicate persons who do not "react" well. At Nantucket there is an excellent establishment for taking baths of warmed sea-water.

Finally, we may add a word as regards the comparative sanatory value of these two places, the Isles of Shoals and Nantucket. Both possess a sea-air of great purity, with the tonic effects proper to such an atmosphere. But one is a cold, the other a warm air; and it is needless to expect benefits if patients are sent without consulting their preferences as to coolness or warmth. Both are "bracing," that is, they promote languor and sleep in many cases; and this is a very valuable quality in the treatment of irritability and sleeplessness. Granting a fair degree of tolerance of cold, the equability of temperature at the Shoals is of great value in removing catarrhal conditions of the mucous membranes; and nearly the same might be said of Siasconset, but hardly of Nantucket. Granting a fair degree of tolerance of heat, the island of Nantucket, with its occasional hot-house atmosphere, its warm, unstimulating sea-baths, its freedom from the noise and excitement of the Shoals hotels, and its absolute drowsiness during the hours of *siesta*, presents advantages in the way of soothing the nerves that are superior to those possessed at the Shoals. Siasconset is still drowsier.

In the debility of retarded convalescence from acute disease, and that arising from disproportioned brain-work, these climates are admirable. Young children thrive wonderfully, wherever they can be exposed to fresh air, upon mountain or sea-shore; and the warmth of the climate furnishes no obstacle to their thriving in Nantucket.

In the first stage of consumption the Shoals are well known as beneficial. Positive improvement cannot be promised, but patients often find themselves very comfortable during their stay; the decided curative effect which is obtained in our high Western regions is not to be expected from this climate. In advanced stages the disease does badly in both places.

It is hard to say whether rheumatism is likely to be benefited by a visit to the Shoals. At Nantucket, the opinion is against sending cases of rheumatism or neuralgia to be cured; rheumatic gout is common enough, also, among the indigenes.

Hay fever is one of the complaints for which people resort to the Shoals, and is often relieved there. A strong land-breeze, however, brings a decided land-smell, and with it an occasional temporary relapse. In the opinion of Dr. Warren, relief is quite general among those who come there. At Nantucket the case is not similar.

There is plenty of evidence to show that there is nothing in a mere residence in either place that can avert disease. Upon the Shoals consumption used to be common among the women, who lived a life of severe toil, in wretchedly ventilated houses. In Nantucket, at the present day, one meets a fair number of goodly old men, vigorous and weather-stained; but the women, who constitute the great part of the population, and bear their own burdens for the most part, are strikingly delicate and worn-looking; their life is also one of in-door labor, and of close economy; they are seldom seen out-of-doors by day, and they are rather subject to consumption. Let the invalid take account of the influence of comfort; let him know how his room is warmed in chilly weather, how high it is in the walls, and how freely the air circulates; how far he has to walk to his meals; whether the meat is eatable when he gets it; whether there is anything to do, or any people one likes to talk to. In regard to the latter point, one has at Nantucket few strangers except those of a very "transient" sort, but the natives are very interesting for their good nature, originality, and accessibility; at the Shoals one finds all sorts of "city folks." There is also to be found at the Shoals a physician, of sound judgment and ripe experience, who spends his summers there on account of ill-health resulting from a railway injury.

In conclusion, it appears to me that if one is decidedly uncomfortable at either place, after a week's trial, it will be of no use to stay longer, except in case one has simply fatigued one's self with over-exertion, or with the common practice of excessive bathing.

